

# Johannesburg Water SOC Ltd



**CONTRACT NO: JW14466**

## **OLIFANTSVLEI WASTEWATER TREATMENT WORKS INFRASTRUCTURE RENEWAL PLAN REFURBISHMENT OF VAN WYKSRUST PUMP STATION**

**VOLUME 1**

**PART 2: PRICING DATA**

Employer:		Contractor:	
Witness:		Witness:	

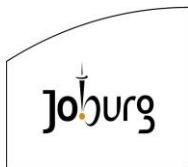
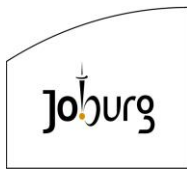


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Employer:		Contractor:	
Witness:		Witness:	



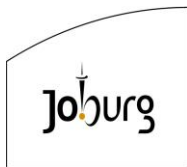
## C2 PRICING DATA

### C2.1 Pricing Instructions

#### C2.1.1 General preamble to the bill of quantities (Engineering works)

- a) All items in the Bill of Quantities, except where otherwise specified in Clause 8 of a Standardised Specification or in the Project Specification, shall be measured and shall cover operations as recommended in the standard system of measurement of civil engineering quantities, published under the title "Civil Engineering Quantities", by the South African Institution of Civil Engineering.
- b) The basis and principles of measurement and payment are described in this section (Pricing Instructions) and Clause 8 of each of the Standardised Specifications for Civil Engineering Construction. The applicable SANS 1200 Standardised Specifications are listed in the Scope of Work, Portion 1: Project Specifications. Variations and amendments to the Project Standard Specifications are contained in the Scope of Work, Portion 2: Variations and/or Additions to the Project Standard Specifications.
- c) Descriptions in the Bill of Quantities are abbreviated and comply generally with those in the Standardised Specifications. Clause 8 of each Standardised Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standardised Specification or the Scope of Work, conflict with the terms of the Bill of Quantities, the requirements of the Standardised Specification or Scope of Work, as applicable, shall prevail.
- d) The clauses in a specification in which further information regarding the Schedule item may be found are listed in the "Payment Refers" column in the Schedule. The reference clauses indicated are not necessarily the only sources of information in respect of listed items. Further information and specifications may be found elsewhere in the Contract Documents. Standardised Specifications are identified by the letter or letters which follow SANS in the SANS 1200 series of specifications, e.g. G for SANS 1200G.
- e) Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
- f) The quantities set out in the Bill of Quantities are the estimated quantities of the Contract Works, but the Contractor shall be required to undertake whatever quantities may be directed by the Employer's Agent from time to time. The Contract Price for the completed Works shall be computed from the actual quantities of work done, valued at the relevant unit rates and/or prices. The Contractor must not order the quantities of materials stated in the Bill of Quantities until he has confirmed from the Construction Drawings or measurement on Site that such quantities are in fact the correct quantities.
- g) The rates and/or prices to be inserted in the Bill of Quantities are to be the full inclusive prices for the work described under the several items. Such rates and/or prices shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the documents, as well as overhead charges and profit. Reasonable charges shall be inserted as these shall be used as a basis for assessment of payment for additional work that may have to be carried out.

Employer:		Contractor:	
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Volume 1 Tender and Contract

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h) A price or rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. An item against which no price is entered will be considered to be covered by the other prices or rates in the Schedule.

i) The units of measurement described in the Bill of Quantities are metric units. Alternatives used are as follows:

mm	=	millimetre	=	hour
m	=	metre	kg	= kilogram
km	=	kilometre	t	= ton (1000kg)
m2	=	square metre	No.	= number
m2 pass	=	square metre pass	sum	= lump sum
ha	=	hectare	MN	= mega-newton
m3	=	cubic metre	MN.m	= mega-newton-metre
m3km	=	cubic metre-kilometre	PC sum	= Prime Cost sum
l	=	litre	Prov sum	= Provisional sum
kl	=	kilolitre	%	= percent
MPa	=	megapascal	kW	= kilowatt
W/day	=	Workday	R/only	= Rate only

j) For the purpose of this Bill of Quantities, where applicable, the following words shall have the meanings hereby assigned to them:

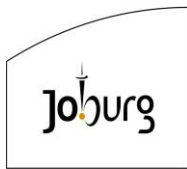
Unit	:	The unit of measurement for each item of work as defined in the SANS 1200.
Quantity	:	The number of units of work for each item.
Rate	:	The agreed payment per unit of measurement.
Amount	:	The product of the quantity and the agreed rate for an item.
Lump sum	:	An agreed amount for an item, the extent of which is described in the Bills of Quantities but the quantity of work of which is not measured in any units.

k) Arithmetical errors in the Bill of Quantities shall be corrected in accordance with Clause C3.9 of the Conditions of Tender. Should there be any discrepancy between rates and/or prices written in the Assessment Schedule and the Bill of Quantities, the latter shall govern.

l) While the Employer has every intent to complete the full scope of works, the Employer reserves the right to reduce or increase the scope of works according to the budget, or to terminate this contract, with adjustment to the agreed rates, sums or fees and without payment of any penalty in this regard. The Service Provider shall however be entitled to pro-rata payment for all services carried out in terms of any adjustment to the Scope of Work or, in the case of termination, remuneration and/or reimbursement.

m) The Bill of Quantities shall be completed by hand in INK or TYPED. The Bill of Quantities in the tender document may be replaced with the typed electronic Bill of Quantities, without changing the quantities, items and description.

Employer:		Contractor:	
Witness:		Witness:	



#### C2.1.2 Sufficiency of tender

The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his Tender for the construction of the Works and of the rates and prices, which rates and prices shall, except in so far as it is otherwise provided in the Contract, cover all his obligations under the Contract and all matters and things necessary for the proper execution and completion of the Works.

#### C2.1.3 Special payment conditions

This clause shall be read in conjunction with the 'Penalties' clause(s). Where the penalty clause shall always receive precedence over this clause, should it be found that duplicative financial corrective measures exist.

##### C2.1.3.1 Applicability of payment items

All payment items forming part of this Contract shall not apply to ordered Works completed by the Contractor under this Contract, where completed Works:

- are not completed to acceptable quality;
- are not issued by the Employer's Agent;
- are still within the defects and liability period; or
- are not accepted by the Employer's Agent or his duly authorised representative.

##### C2.1.3.3 Working outside normal hours

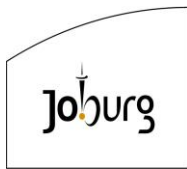
The additional costs, if any, to perform works outside normal working hours shall be deemed to have been allowed for in the provided activity pricing rates and/or prices.

#### C2.1.4 SMME Portion of the Works

A portion of the works must be allocated for completion by appointed SMMEs.

The Main Contractor shall retain liability and responsibility for the management, scheduling, and quality control of all works performed by the sub-contractors. After appointment of the Main Contractor, Johannesburg Water will supply the Main Contractor with a list of SMMEs which the Main Contractor can approach to provide rates for the items envisaged for subcontracting. The Main Contractor will be expected to conduct a competitive process to recommend a Sub-Contractor or Sub-Contractors to Johannesburg Water. Johannesburg Water will then evaluate all rates provided by the Sub-Contractor for fairness. Johannesburg Water will then either a) approve the appointment of the Sub-Contractor or Sub-Contractors or b) enter into negotiations with the Main Contractor and Sub-Contractor / s or c) request that the Contractor recommend a different Sub-Contractor.

Employer:		Contractor:	
Witness:		Witness:	



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OLIFANTSVLEI WASTEWATER TREATMENT WORKS IRP  
REFURBISHMENT OF VAN WYKSRUST PUMP STATION CONTRACT 1

Volume 1 Tender and Contract

Section C2 Pricing Data

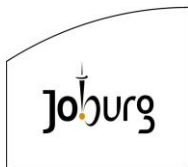


Further an allowance has been made for the Contractor to complete the following tasks:

- The Contractor shall ensure that the Sub-Contractor(s) complies with paying all amounts due in respect of his employees and himself in terms of all relevant legislation and regulations including, but not confined to, the
  - Income Tax Act, the
  - Compensation for Occupational Injuries and Diseases Act,
  - Unemployment Insurance Act,
  - Basic Conditions of Employment Act
- Monitoring of the Quality of Work completed by the Sub-contractor/SMME
- Skills transfer during the execution of the project
- Compliance with all aspects of the Scope of Work
- Assistance with sourcing of applicable material in line with the technical data sheets

Further an allowance has been made for “Training” – this is related to CETA accredited training which is to be agreed with the Employer during project execution. No amount can be claimed under this item for on-site or on-the-job training, only for accredited training which the SMME receives.

Employer:		Contractor:	
Witness:		Witness:	



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## BILL OF QUANTITIES



Employer:		Contractor:	
Witness:		Witness:	



<div>  <div> <b>Contract JW14466 : Olifantsvlei WWTW</b>  <b>Infrastructure Renewal Plan</b>  <b>Volume 1 Tender and Contract</b>  <b>Pricing Data</b> </div>  </div>						
Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
SABS 1200 AA 8.3  8.3.1  8.3.2    8.3.3   8.3.4  8.4  8.4.1  8.4.2    8.4.3    PSAA 8.5  PSAA 8.5.1	<b>1</b>	<b><u>PRELIMINARY AND GENERAL</u></b>				
	<b>1.1</b>	<b><u>GENERAL (SMALL WORKS)</u></b>				
		<b>Scheduled fixed-charge and value-related items:</b>				
	1.1.1	<b>Contractual requirements</b>	Sum	1		
		<b>Provision of facilities on Site:</b>				
	1.1.2	(a) Facilities required by Engineer, as described in project specification PSAB	Sum	1		
	1.1.3	(b) Facilities required by Contractor Nameboards as per Drawing No. BW1400-RHD-C1-11-D-C-1101	Sum	1		
			No	2		
	1.1.4	<b>General responsibilities and other fixed-charge obligations</b>	Sum	1		
		Provision for Socio-economic Development	Sum	1		
	1.1.5	<b>Removal of Site establishment</b>	Sum	1		
		<b>Scheduled time-related items:</b>				
	1.1.6	<b>Contractual requirements</b>	Rate/ month	18		
		<b>Operation and maintenance of facilities on Site:</b>				
	1.1.7	(a) Facilities for Engineer	Rate/ month	18		
	1.1.8	(b) Facilities for Contractor	Rate/ month	18		
	1.1.9	<b>General responsibilities and other time-related obligations</b>	Rate/ month	18		
	1.1.10	Provision for Socio-economic Development (time related)	Rate/ month	18		
		<b>Provisional sums, prime cost items, daywork and temporary works</b>				
		<b>Temporary Works Dealing with Water on the Works (Incl. flow accomodation)</b>				
	1.1.11	a) General flow accomodation (flow diversion, creating a dry environment for construction work).	Sum	1		
	1.1.12	b) Draining and waterjetting/cleaning flooded, existing pump station and influent channels.	Sum	1		
	1.1.13	c) Draining of existing Van Wyksrust rising mains and disposal.	Sum	1	R 200 000,00	R200 000,00
	1.1.14	d) Subsoil drainage and/or other temporary measures surrounding the pump station	Prov Sum	1	R 5 000 000,00	R5 000 000,00
	1.1.15	Percentage mark-up on provisional sum item 1.1.14 above	%			
Carried forward						







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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
PSAA 8.5.2	1.1.16	a) Daywork				
		i) Unskilled labour	Rate/hr	200		
		ii) Skilled labour	Rate/hr	200		
	1.1.17	b) Plant				
		i) TLB	Rate/hr	200		
PSAA 8.5.4	1.1.18	ii) Mobile Crane (5t)	Rate/hr	200		
		Ground penetrating radar (GPR) survey at				
		(i) all areas of construction (Contract 1)	Prov Sum	1	R 150 000,00	R150 000,00
		(ii) areas for future Contract 2	Prov Sum	1	R 100 000,00	R100 000,00
		Percentage mark-up on provisional sum items above	%			
PSAA 8.5.5	1.1.19	Topographical survey				
		(i) Rising mains (x3)	Prov Sum	1	R 150 000,00	R150 000,00
		(ii) Substation C and Van Wyksrust p/stn road	Prov Sum	1	R 70 000,00	R70 000,00
		(iii) Scope related to contract 2	Prov Sum	1	R 250 000,00	R250 000,00
		Percentage mark-up on provisional sum items above	%			
	1.1.20	Flow logging as directed.	Prov Sum	1	R 100 000,00	R100 000,00
	1.1.21	Percentage mark-up on provisional sum item 1.1.20 above	%			
	<b>1.2</b>	<b>Compliance with the Occupational Health and Safety Act and applicable regulations:</b>				
	1.2.1	i. Provision of a Health and Safety Plan	Sum	1		
	1.2.2	ii. Provision of Health and Safety file	Sum	1		
PS 7	1.2.3	iii. Provision of construction supervisors	Sum	1		
	1.2.4	iv. Provision of a safety officer (full-time)	Sum	1		
	1.2.5	v. Health and Safety training	Sum	1		
	1.2.6	vi. Provision of personal protective clothing and equipment (incl. for the Engineer, assistants and visitors)	Sum	1		
	1.2.7	vii. Provision of safety fences, signs and barricades	Sum	1		
	1.2.8	Medical assessment of all employees	Sum	1		
	1.2.9	HIV/AIDS Awareness: Compliance with requirements of SANS 1921-6	Sum	1		
		Carried forward				



		<b>Contract JW14466 : Olifantsvlei WWTW</b> <b>Infrastructure Renewal Plan</b> <b>Volume 1 Tender and Contract</b> <b>Pricing Data</b>				
Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
	Brought forward					
PS 8	1.2.10	Compliance with the Occupational Health and Safety Act, applicable regulations and any other costs not allowed for anywhere else.	Sum	1		
	<b>1.3</b>	<b>Environmental management during construction</b>				
	1.3.1	Environmental awareness campaign	Sum	1		
PS 6.5	1.3.2	Water pollution control	Sum	1		
	1.3.3	Compliance with relevant environmental legislation	Sum	1		
	1.3.4	Compulsory postponement of the issuing of the Certificate of Completion	Rate/day	10		
	1.3.5	Address feedback (requirements) from authorities	Prov Sum	1	R 5 000 000,00	R5 000 000,00
PSSC 1	1.3.6	Percentage mark-up on provisional sum item 1.3.5 above	%			
	<b>1.4</b>	<b>SUB-CONTRACTORS</b>				
PSSC 1	1.4.1	Value of Sub-Contracted Works	Sum	1		
PSSC 2	1.4.2	Overhead, charges and profit fee for the Main Contractor to oversee sub-contracted works.	%			
PSSC 3	1.4.3	Fixed-charge items for the sub-contractors Contractual Requirements	Sum	1	R 350 000,00	R350 000,00
PSSC 4	1.4.4	Overhead, charges and profit for the Main Contractor to provide for fixed-charge items for the sub-contractors Contractual Requirements.	%			
PSSC 5	1.4.5	Time Related items for the sub-contractors Contractual Requirements	Sum	1	R 250 000,00	R250 000,00
PSSC 6	1.4.6	Overhead, charges and profit for the Main Contractor to provide for time related items for the sub-contractors Contractual Requirements	%			
PSSC 7	1.4.7	Training for SMMEs	Prov Sum	1	R 250 000,00	R250 000,00
PSSC 8	1.4.8	Overhead, charges and profit for the Main Contractor to provide for training for SMMEs	%			
PSSC 9	1.4.9	For Contractor to make direct payment on behalf of SMME	Prov Sum	1	R 200 000,00	R200 000,00
PSSC 10	1.4.10	Overhead, charges and profit for the Main Contractor to make direct payment on behalf of SMME	%			
	<b>1.5</b>	<b>Miscellaneous</b>				
	1.5.1	Community Liason Officer (CLO)	Sum	1	R 250 000,00	R250 000,00
	1.5.2	Percentage mark-up on provisional sum item 1.5.1 above	%			
	Carried forward					



		<b>Contract JW14466 : Olifantsvlei WWTW</b> <b>Infrastructure Renewal Plan</b> <b>Volume 1 Tender and Contract</b> <b>Pricing Data</b>				
Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
PSAA 8.5.3	1.5.3	Temporary site security measures / risk mitigation	Prov Sum	1	R 3 000 000,00	R3 000 000,00
	1.5.4	Percentage mark-up on provisional sum item 1.5.3 above	%			
	1.5.5	Security Guards (refer to Scope of work, PS 6.1)	Rate/m	18		
	1.5.6	Conduct investigations and assessment of damaged or missing existing infrastructure such as Manhole covers; etc	Sum	1		
	1.5.7	Conduct Geotechnical investigations which includes tests deemed necessary by the Geotechnical Engineer	Prov Sum	1	R 350 000,00	R350 000,00
	1.5.8	Percentage mark-up on provisional sum item above	%			
	1.5.9	Forward Cover (add 10% of Total Value of Imported Content) Equipment Schedule - Form	Sum	1		
	1.5.10	Standing time	Rate/d	20		
	1.5.11	Conduct a concrete integrity test on the existing Van Wyksrust pump station (drone 3D scan, etc).	Prov Sum	1	R 120 000,00	R120 000,00
	1.5.12	Percentage mark-up on provisional sum item above	%			
	<b>1.6</b>	<b>Socio-economic Development</b>				
	1.6.1	Accredited training programmes are targeted which will provide the beneficiaries with significant and recognized credit value	Prov Sum	1	R 250 000,00	R250 000,00
	1.6.2	Percentage mark-up on provisional sum item above	%			
	1.6.3	Corporate Social Responsibility programs aimed at improving the livelihood of the community	Prov Sum	1	R 300 000,00	R300 000,00
	1.6.4	Percentage mark-up on provisional sum item above	%			
	<b>TOTAL SECTION 1 CARRIED TO SUMMARY</b>					

<div>  <div> <b>Contract JW14466 : Olifantsvlei WWTW</b>  <b>Infrastructure Renewal Plan</b>  <b>Volume 1 Tender and Contract</b>  <b>Pricing Data</b> </div>  </div>						
Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
SABS 1200 C 8.2.1  8.2.2  8.2.5 8.2.7  8.2.9 PSC 8.2.10  PSC 8.2.12 PSC 8.2.14  PSC 8.2.15 PSC 8.2.16 PSC 8.2.17 PSC 8.2.18  SABS 1200 DA PSDA 8.3.1	<b>2</b>	<b><u>CIVILS</u></b>				
		<b><u>VAN WYKSRUST PUMP STATION AND SUBSTATION C</u></b>				
	<b>2.1</b>	<b>SITE CLEARANCE</b>				
	2.1.1	Clear and grub as designated by the Engineer i. Van Wyksrust p/stn ii. Substation C	ha ha	0,42 0,04		
	8.2.2	<b>Remove and grub all trees and tree stumps regardless of girth (Prov.)</b>				
	2.1.2	(a) Over 1,0 m and up to and including 2,0 m	No	4		
	2.1.3	(b) Over 2,0 m and up to and including 3,0 m	No	3		
	8.2.5	2.1.4 <b>Take down existing fences</b>	km	0,08		
	8.2.7	2.1.5 <b>Dismantle and remove pipelines, electricity transmission lines, cables, etc.</b>				
		i. existing small diameter (<DN100) HDPE pipes (Provisional)	m	100		
		ii. Existing DN700 steel pipe installed on existing concrete plinths traversing the wetland	m	550		
	8.2.9	2.1.6 <b>Transport materials and debris to unspecified site and dump</b>	t.km	300		
	PSC 8.2.10	2.1.7 <b>Remove topsoil to nominal depth of 150 mm and stockpile</b> Van Wyksrust p/stn	m <sup>3</sup>	215		
		Substation C	m <sup>3</sup>	15		
	PSC 8.2.12	2.1.8 <b>Temporary fencing closures</b>	m	30		
	PSC 8.2.14	2.1.9 <b>Demolish and remove structures/buildings and dismantle steelwork, etc</b>				
		i. Existing concrete skip slab	m <sup>3</sup>	15		
		ii. Existing steel crawl beam (SWL 3T)	No.	1		
		iii. Existing splitter chamber brickwork	m <sup>3</sup>	10		
		iv. Existing splitter chamber concrete lid	m <sup>3</sup>	5		
		v. Existing disused chambers at Substation C	m <sup>3</sup>	10		
		vi. Existing pump station staircase	m <sup>3</sup>	2		
		vii. Existing apron at Substation C	m <sup>3</sup>	10		
PSC 8.2.15	2.1.10	<b>Demarcation fencing</b>	m	260		
PSC 8.2.16	2.1.11	<b>Childproof barrier</b>	m	260		
PSC 8.2.17	2.1.12	<b>Remove existing precast kerbing to approved dump site</b>	m	200		
PSC 8.2.18	2.1.13	<b>Remove existing concrete block paving</b>	m <sup>2</sup>	200		
	<b>2.2</b>	<b>EARTHWORKS (SMALL WORKS)</b>				
		<b>Excavation:</b>				
		Carried forward				



<div>  <div> <b>Contract JW14466 : Olifantsvlei WWTW</b>  <b>Infrastructure Renewal Plan</b>  <b>Volume 1 Tender and Contract</b>  <b>Pricing Data</b> </div>  </div>						
Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
		(b) Excavate in all materials and use for embankment or backfill or dispose, as ordered (see Fig DA-1)				
	2.2.1	For backfill				
		i. New bypass channel	m <sup>3</sup>	75		
		ii. Splitter chamber extension	m <sup>3</sup>	55		
		iii. Bypass manhole installation	m <sup>3</sup>	60		
		iv. Sump extension	m <sup>3</sup>	25		
		v. Screenings facility	m <sup>3</sup>	25		
		vi. Generator bunded area and sump	m <sup>3</sup>	10		
		vii. Guardhouse platform	m <sup>3</sup>	12		
		viii. Perimeter walls; Van Wyksrust p/stn	m <sup>3</sup>	1965		
		Substation C	m <sup>3</sup>	590		
	2.2.2	For embankment (provisional)				
		i. New bypass channel	m <sup>3</sup>	7		
		ii. Splitter chamber extension	m <sup>3</sup>	6		
		iii. Bypass manhole installation	m <sup>3</sup>	6		
		iv. Sump extension	m <sup>3</sup>	3		
		v. Screenings facility	m <sup>3</sup>	5		
		vi. Generator bunded area and sump	m <sup>3</sup>	3		
		vii. Guardhouse platform	m <sup>3</sup>	3		
		viii. Perimeter walls	m <sup>3</sup>	50		
	2.2.3	For disposal				
		i. New bypass channel	m <sup>3</sup>	60		
		ii. Splitter chamber extension	m <sup>3</sup>	85		
		iii. Bypass manhole installation	m <sup>3</sup>	50		
		iv. Sump extension	m <sup>3</sup>	30		
		v. Screenings facility	m <sup>3</sup>	175		
		vi. Generator bunded area and sump	m <sup>3</sup>	35		
		vii. Guardhouse platform	m <sup>3</sup>	35		
		viii. Perimeter walls	m <sup>3</sup>	630		
	2.2.4	(c) Extra over for:				
		i. Intermediate excavation	m <sup>3</sup>	280		
		ii. Hard rock excavation	m <sup>3</sup>	150		
PSDA 8.3.2	2.2.5	<b>Restricted excavation (see Fig DA-2):</b> Excavate for restricted foundations, footings and trenches in all materials and use for backfill or embankment or dispose				
		i. Downstand/ground beams	m <sup>3</sup>	10		
		ii. Generator slab sump	m <sup>3</sup>	1		
	2.2.6	(c) Extra over for:				
		i. Intermediate excavation	m <sup>3</sup>	7		
		ii. Hard rock excavation	m <sup>3</sup>	4		
PSDA 8.3.4	2.2.7	<b>Importing of materials from commercial sources :</b>				
		(a) For Embankment Construction	m <sup>3</sup>	250		
		Carried forward				



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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
		(b) For Backfilling around Structures				
		i. G7 material compacted to 95% Mod. AASHTO				
		New bypass channel	m <sup>3</sup>	17		
		Splitter chamber extension	m <sup>3</sup>	28		
		Bypass manhole installation	m <sup>3</sup>	12		
		Sump extension	m <sup>3</sup>	6		
		Screenings facility	m <sup>3</sup>	110		
		Generator bunded area and sump	m <sup>3</sup>	25		
		Guardhouse platform	m <sup>3</sup>	30		
		ii. G8 material compacted to 90% Mod. AASHTO (Provisional)	m <sup>3</sup>	1500		
		iii. C4 Quality stabilized base compacted to 97% Mod. AASHTO maximum density				
		Perimeter walls	m <sup>3</sup>	360		
		150 mm foundation layer below all structures- Rip and recompact to 93% Mod AASTO Density	m <sup>3</sup>	165		
8.3.6	2.2.8	<b>Topsoiling</b>	m <sup>2</sup>	1325		
8.3.7	2.2.9	<b>Grassing or other vegetation cover</b>	m <sup>2</sup>	1325		
PSDA 8.3.9	2.2.10	<b>Additional compaction</b>	m <sup>3</sup>	420		
PSDA 8.3.11	2.2.11	<b>Protection of structures: buildings</b>	Sum	1		
SABS 1200 DB 8.3.1	<b>2.3</b>	<b>EARTHWORKS (PIPE TRENCHES)</b>				
		<b>Site clearance and(if specified) removal of topsoil:</b>				
	2.3.1	(a) Clear vegetation and trees of girth up to 1,0 m	m	65		
	2.3.2	(c) Remove topsoil up to 200 mm in depth	m <sup>2</sup>	180		
PSDB 8.3.2		<b>Excavation:</b>				
	2.3.3	(a) Excavate in all materials for trenches, backfill, compact and dispose of surplus material				
		(i) DN700 pipes (Provisional)	m <sup>3</sup>	350		
		(ii) DN1050 bypass pipe	m <sup>3</sup>	500		
	2.3.4	(b) Extra over item (a) above for:				
		(i) Intermediate excavation	m <sup>3</sup>	45		
		(iii) Hand excavation and backfill only where ordered by the Engineer	m <sup>3</sup>	170		
		(iv) Backfill stabilised with 5% cement where directed by the Engineer (for trenches across road surfaces)	m <sup>3</sup>	40		
	2.3.5	(c) Excavate and dispose of unsuitable material from trench bottom (provisional)	m <sup>3</sup>	45		
		Carried forward				



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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
PSDB 8.3.3		<b>Excavation ancillaries:</b>				
PSDB 8.3.3.1	2.3.6	<b>Make up deficiency in backfill material</b> (c) By importation from commercial or off-site sources selected by the contractor	m <sup>3</sup>	220		
8.3.4		<b>Particular items:</b> Short trench opposite structure or service (Prov.)	m	400		
PSDB 8.3.5		<b>Existing services that intersect or adjoin a pipe trench:</b>				
	2.3.7	(a) Services that intersect a trench (angles between centre-lines in plan of 45 - 90°)	No	10		
	2.3.8	(b) Services that adjoin a trench (parallel to or at a angle between centre-lines in plan of less than 45°)	m	150		
SABS 1200 GA 8.2	2.4	<b>CONCRETE (STRUCTURAL)</b>				
		<b>FORMWORK</b>				
8.2.1	2.4.1	<b>Rough:</b> (i) Splitter box extension walls external faces (up to 150mm below FGL) (ii) Bypass channel walls external faces (up to 150mm below FGL) (iii) Sump tie-in walls external faces (iv) Perimeter walls foundation	m <sup>2</sup> m <sup>2</sup> m <sup>2</sup> m	50 45 20 630		
8.2.2	2.4.2	<b>Smooth:</b> (i) Splitter box extension walls internal faces (from 150mm below FGL) (ii) Bypass channel walls internal faces (from 150mm below FGL) (iii) Sump tie-in walls external faces	m <sup>2</sup> m <sup>2</sup> m <sup>2</sup>	40 30 15		
8.2.3	2.4.3	narrow width (less than 500mm wide): (i) Screenings facility, upstand beams (smooth finish) (ii) Generator bunded area (smooth finish) (iii) Trolley beam (smooth finish) (iv) Guardhouse slab and stubs (v) Splitter box extension floor	m m m m m	75 45 70 30 24		
		Carried forward				



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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
8.2.4	2.4.4	(vi) Sump extension floor (vii) Screenings facility downstand beam (viii) Bypass channel floor <b>Box out holes/form voids:</b> (a) Small, circular of diameter up to and including 0,35 m: (i) Up to 0,5 m deep (Prov.) (b) Small, other than circular, of area up to and including 0,1 m²: (i) Up to 0,5 m deep (Prov.) (c) Large, circular, of diameter over 0,35 m up to and including 0,7 m: (i) Up to 0,5 m deep (d) Large, other than circular, of area over 0,1 m² and up and including to 0,5 m²: (i) Up to 0,5 m deep (Prov.)	m m m  No  No  No  No	5 35 15  3  3  8  10		
8,3	2.4.5	<b>REINFORCEMENT</b>				
8.3.1		(a) Mild steel	t	4		
		(b) High-tensile steel	t	34		
8.3.2	2.4.6	<b>High tensile welded mesh</b>				
		REF 617	m²	200		
	2.4.7	REF 888	m²	885		
PSGA 8.4		<b>CONCRETE</b>				
8.4.2	2.4.8	<b>Blinding layer 50mm thick in grade 15/19 under structures</b>				
		(a) Perimeter walls	m²	380		
		Sub C	m²	125		
		(b) Guardhouse slab	m²	25		
		(c) Splitter box extension	m²	30		
		(d) Bypass channel	m²	10		
		(e) Screenings facility	m²	165		
		(f) Generator bunded area	m²	30		
		(g) Sump extension	m²	5		
		Carried forward				







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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
8.4.3	2.4.9	<b>Strength concrete, grade 30/19</b>				
		(i) Guardhouse slab	m <sup>3</sup>	12		
		(ii) Screenings facility	m <sup>3</sup>	70		
		(iii) Generator bunded area	m <sup>3</sup>	10		
		(iv) Thickening at screens installations (Prov.)	m <sup>3</sup>	5		
	2.4.10	<b>Strength concrete, grade 35/19</b>				
		(i) Splitter box extension	m <sup>3</sup>	22		
		(ii) Bypass channel	m <sup>3</sup>	15		
		(iii) Sump extension	m <sup>3</sup>	10		
	2.4.11	<b>Strength concrete, grade 25/19</b>				
		(i) Perimeter walls foundation	m <sup>3</sup>	105		
8.4.4		Sub C	m <sup>3</sup>	35		
		<b>Unformed surface finishes:</b>				
	2.4.12	(a) Wood-floated finish				
		(i) Perimeter walls foundation	m <sup>2</sup>	415		
		(ii) Guardhouse slab	m <sup>2</sup>	25		
	2.4.13	(b) Steel floated				
		(i) Splitter box extension	m <sup>2</sup>	35		
		(ii) Bypass channel	m <sup>2</sup>	10		
		(iii) Sump extension	m <sup>2</sup>	5		
		(iv) Generator bunded area	m <sup>2</sup>	30		
	2.4.14	(c) Power floated surfaces				
		(i) Screenings facility	m <sup>2</sup>	150		
8.5		<b>Joints:</b>				
	2.4.15	Contraction joints (Prov.)	m	50		
	2.4.16	Expansion joints (Prov.)	m	50		
8.7	2.4.17	Control joints	m	30		
	2.4.18	<b>Grouting:</b>				
		(a) Under bases (or beds)	m <sup>3</sup>	8		
PSGA 8.9.1	2.4.18	(b) HD bolts, etc	m <sup>3</sup>	5		
		Concrete coring	No	11		
		Carried forward				



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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
PSGA 8.9.2	2.4.20	Grouting of pipes/specials through walls or slabs	m³	5		
SABS 1200 GE	<b>2.5</b>	<b><u>PRECAST CONCRETE (STRUCTURAL)</u></b>				
8.2.1		Supply, deliver and build-in, high security pull-out concrete doors complete with all accessories (shop details incl.)				
	2.5.1	(a) Double door	No	2		
	2.5.2	(b) Double door, slotted for crawl beam	No	2		
	2.5.3	(c) Single door	No	2		
	2.5.4	Supply, deliver and build-in, high security concrete ventilation panels complete with all accessories (shop details incl.)				
		(i) Approximately 2 x 2m panel	No	3		
		(ii) Approximately 5 x 5m panel	No	4		
SABS 1200 H	<b>2.6</b>	<b>STRUCTURAL STEELWORK</b>				
8.3.1.1	2.6.1	Preparation of shop detail drawings	Sum	1		
8.3.1.2		Supply and fabrication of steelwork				
	2.6.2	Supply, fabrication, delivery and erection of elevated, armoured Level B6, guardhouse including support and ladder, complete. Designed and Approved by a Professional Engineer.	Sum	1		
SABS 1200 HA	<b>2.7</b>	<b>STRUCTURAL STEELWORK (SUNDRY ITEMS)</b>				
8.3.1	2.7.1	Supply and erect, with stop end, all fixings, complete, including corrosion protection, crawl beam to match existing. (SWL 3t, approx. 18 m long)	No.	1		
SABS 1200 PSL	<b>2.8</b>	<b>MEDIUM-PRESSURE PIPELINES</b>				
8.2.1	2.8.1	Supply, lay, and bed pipes complete.				
		(i) DN1050, Class 50D, spigot and socket concrete pipe. (Bypass pipe)	m	70		
M21.27		(ii) Design, drawings, manufacture, supply, off loading and storage of the new washwater main, SANS 62, flanged to SANS 1123 table 1600/3 DN100, Medium duty, GMS above ground.	m	1600		
		(iii) DN700 MS, 8 mm wall thickness including coating and lining, as specified (Coating; System B1A-high build two component epoxy coating followed by two coats of polyurethane and Lining; System C1-high build two component solvent-based coal tar Epoxy).	m	710		
		Carried forward				



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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
M21.27	2.8.2	(iv) DN160 Slotted HDPE drain pipes (Prov.)	m	600		
		Installation, site testing and commissioning of				
		(i) DN100, new washwater main.	m	1600		
		(ii) DN700, rising mains	m	3500		
PSL 8.2.1.3	2.8.3	Extra over 8.2.1 for cutting pipe as closure (Prov.)	No	5		
	2.8.4	Extra over 8.2.1 for the supplying, laying, and bedding of specials including specified corrosion protection. (Prov.)	No	7		
PSL 8.2.1.5	2.8.5	Extra over 8.2.1 for couplings for DN700 MS	No	95		
SABS 1200 LB	<b>2.9</b>	<b>BEDDING (PIPES)</b>				
PSLB 8.2.1		Provision of bedding from trench excavation:				
	2.9.1	(a) Without the need for screening:				
		(i) Selected granular material	m <sup>3</sup>	50		
		DN700 (Prov.)	m <sup>3</sup>	310		
	2.9.2	(b) Including for screening:				
		(ii) Selected granular material	m <sup>3</sup>	100		
PSLB 8.2.2		Provision of bedding by importation:				
	2.9.3	(a) Including for screening and/or other treatment:				
		(i) Selected granular material	m <sup>3</sup>	200		
	2.9.4	Padding sand to specified bedding dimensions (Prov.)	m <sup>3</sup>	50		
PSLB 8.2.4		Encasing of pipes in concrete				
	2.9.5	(i) For DN1050 Bypass pipe, with 20Mpa concrete (	m <sup>3</sup>	4		
PSLB 8.2.6		Drainage layer:				
	2.9.6	(a) Stone filling	m <sup>3</sup>	75		
	2.9.7	(b) Geofabric filter material (Bidim Grade A4 or similar)	m <sup>2</sup>	620		
		Carried forward				

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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
SABS 1200 LD 8.2.3	<b>2.10</b>	<b>SEWERS</b>				
	2.10.1	Construct DN1800 precast concrete manholes including cast in situ floors complete with channeling, building in pipe ends, precast concrete cover slabs with medium duty access covers and frames in the following depth increments				
		(c) 3 - 4 m	No	1		
8.2.4	2.10.2	Extra over item 8.2.3 for backdrops, missing covers, etc.	No	2		
SABS 1200 MK 8.2.1	<b>2.11</b>	<b>KERBING AND CHANNELLING</b>				
	2.11.1	Concrete Kerbing, . Prov. a) Figure 8c kerbs, straight complete (Grade 25MPa concrete )	m	70		
8.2.2	2.11.2	Concrete Kerbing and Channelling Combined down chutes and kerb inlets, straight, complete Grade 25MPa concrete).	m	70		
8.2.5	2.11.3	Chutes	m	10		
PQA	<b>2.12</b>	<b>BRICKWORK, BLOCKWORK AND PLASTERING</b>				
PQA 15.1	2.12.1	Brickwork				
		(i) 345 mm thick facebrick both sides (to suit existing buildings) for 2,7 m high perimeter walls, inclusive of joints.	m <sup>2</sup>	950		
		(ii) 345 mm thick general purpose foundation brickwork for 2,7 m high perimeter walls, inclusive of joints.	m <sup>2</sup>	375		
		(iii) 230 mm thick brickwork repairs to pump station suit existing)	m <sup>2</sup>	50		
		(iv) 230 mm thick brickwork repairs to splitter chamber to suit existing)	m <sup>2</sup>	15		
PQA 15.3	2.12.2	Building in window frames, door frames, pipes, steelwork, etc	No	15		
PQA 15.4	2.12.3	Damp proof course (345 mm thick walls)	m <sup>2</sup>	150		
PQA 15.5	2.12.4	Lintels (Prov.)	m	10		
PQA 15.6	2.12.5	Extraction fans (Prov.)	No	2		
PQA 15.7	2.12.6	Chases in brickwork (Prov.)	m	20		
PQA 15.9	2.12.7	Brickforce brick reinforcement (345 mm thick walls)	m	3850		
		Carried forward				



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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
	Brought forward					
PQA 15.10	2.12.8	Underfloor Waterproofing	m <sup>2</sup>	200		
PQA 17	2.12.9	PLASTERING	Prov Sum	1	R 25 000,00	R25 000,00
	2.12.10	Percentage mark-up on item above	%			
PQB	<b>2.13.1</b>	<b>FLOOR FINISHES AND WALL TILING</b>	Prov Sum	1	R 55 000,00	
	2.13.2	Percentage mark-up on item above	%			
PQF	<b>2.14.1</b>	<b>PLUMBING</b>				
PQF 5.1	2.14.2	Provision of all materials, plant and labour necessary to complete the required installation and testing, including sanitary ware.	Prov. Sum	1	R 100 000,00	
	2.14.3	Percentage mark-up on item above	%			
PQH	<b>2.15</b>	<b>PAINTING</b>				
PQH 4.1	2.15.1	Provision of all materials, plant and labour necessary to prepare the surfaces and complete the painting work as per existing painted surfaces of the pump station and Substation C buildings	Prov. Sum	1	R 80 000,00	R80 000,00
	2.15.2	Percentage mark-up on item above	%			
PZA	<b>2.16</b>	<b>CLEANING OF SEWERS</b>				
PZA 5.1		<b>Cleaning sewer pipes and manholes:</b>				
	2.16.1	(a) Cleaning of sewer using mechanical means (Prov.)				
		(i) DN700 steel pipe (lined and coated)	m	1700		
		(ii) DN1400 steel pipe (lined and coated)	m	1250		
	2.16.2	(b) Extra over for levels of silting greater than 20% of the pipe diameter	m	590		
	2.16.3	(c) Cleaning of sewer using high pressure jet cleaning				
		(i) DN700 steel pipe (lined and coated)	m	3400		
		(ii) DN1400 steel pipe (lined and coated)	m	2500		
	2.16.4	(d) Extra over for levels of silting greater than 20% of the pipe diameter	m	1180		
	2.16.5	(e) 'Cleaning of manholes/chambers, irrespective of internal dimensions using high pressure jet cleaning	No	4		
	Carried forward					



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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
PZE	<b>2.17</b>	<b>TRENCHLESS REPLACEMENT OF EXISTING PIPES</b>				
PZE 8.1	2.17.1	Trenchless replacement (lining) of existing pipes (MS DN700) with HDPE DN630 PN16	m	1100		
PZE 8.3	2.17.2	Launching and receiving trenches	Sum	1		
PZE 8.4	2.17.3	Road reinstatement (Prov.)	m <sup>2</sup>	145		
PZE 8.5	2.17.4	Site establishment	Sum	1		
PZE 8.6	2.17.5	Method statement	Sum	1		
PZE 8.7	2.17.6	CCTV Inspections Existing MS DN700 pipes	m	3740		
	<b>2.18</b>	<b>MISCELLANEOUS ITEMS</b>				
	2.18.1	Minor civil modifications, repairs or additions associated with M, E&I works (Provisional)	Prov Sum	1	R 100 000,00	R100 000,00
	2.18.2	Percentage mark-up on item above	%			
	2.18.3	Preparation and repair of deteriorated concrete walls and/or floors, including but not limited to cracks (minor/major), holes/voids, overcoating. (by use of cementitious, chrystalline slurry, mortar or other suitable means, as approved by the Engineer)	Prov Sum	1	R 1 240 000,00	R1 240 000,00
	2.18.4	Percentage mark-up on item above	%			
		Provision of all materials, plant and labour necessary to supply, prepare the surfaces and apply epoxy for acid attack prevention on concrete surfaces				
	2.18.5	(a) Skip bunded area	m <sup>2</sup>	180		
	2.18.6	(b) New screen channel section	m <sup>2</sup>	40		
	2.18.7	Supply and install GRP hand and knee rails, (each rail shall be measured separately along the centre line) including bends,offsets and closures, complete with fixings. (38 mm tube)				
		(i) Horizontal - Van Wyksrust pump station	m	450		
	2.18.8	Flooring complete, installed with frames and all fixings. Open grid GRP floors (38 x 38 x 38 mm)	m <sup>2</sup>	10		
	2.18.9	Allowance for supplementary existing pipe concrete thrust blocks and plinths repairs	Prov. Sum	1	R 200 000,00	R200 000,00
	2.18.10	Percentage mark-up on item above	%			
	2.18.11	Existing potable water pipe repairs	Prov. Sum	1	R 50 000,00	R50 000,00
		Carried forward				



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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
	2.18.12	Percentage mark-up on item above	%			
	2.18.13	Reinstatement of existing stormwater infrastructure (channels, drains, etc)	Prov. Sum	1	R 50 000,00	R50 000,00
	2.18.14	Percentage mark-up on item above	%			
	2.18.15	Entrance gates to suit perimeter walls, including vehicular and pedestrian type provision, at Van Wyksrust pump station and Substation C.	Prov. Sum	1	R 145 000,00	R145 000,00
	2.18.16	Percentage mark-up on item above	%			
	2.18.17	Existing building roof repairs (Van Wyksrust pump station)	Prov. Sum	1	R 30 000,00	R30 000,00
	2.18.18	Percentage mark-up on item above	%			
	2.18.19	Alternative pumps arrangement: Independent steel platform may be installed close to ground level, within the existing double volume space of the Van Wyksrust pump station building. Pumps capable of dry-priming may be installed on this higher level platform. (Provisional)	Prov. Sum	1	R 6 000 000,00	R6 000 000,00
	2.18.20	Percentage mark-up on item above	%			
	2.18.21	Address conditions and/or restrictions as required/imposed by the findings of the dolomite investigation (by others)	Prov. Sum	1	R 2 000 000,00	R2 000 000,00
	2.18.22	Percentage mark-up on item above	%			
	<b>TOTAL SECTION 2 CARRIED TO SUMMARY</b>					



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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
	<b>3</b>	<b><u>ELECTRICAL, CONTROL AND INSTRUMENTATION</u></b>				
		Schedule No 1 <b>MV System Upgrade</b>				
	<b>3.1</b>	Manufacture, supply, off loading and installation of Van Wyks MV Reticulation - 12kV Metal-clad MV Switchgear Boards and RMU's 800A, 25kA. As detailed in the specifications				
E13.26		(a) Incomer circuit breaker	No	2		
E13.26		(b) Feeder circuit breaker	No	1		
E13.26		(c) Battery tripping unit, wired fully installed	No	1		
E13.26		(d) 11kV 3-way Ring Main Unit	No	1		
	<b>3.2</b>	MV Cable Supply and installation XLPE Type A copper conductor cables strapped to cable ladders. (trenches, sleeves and cable terminations measured elsewhere)				
E12.9		(a) 185 mm <sup>2</sup> x 3 core	m	1000		
E12.9		(b) 70 mm <sup>2</sup> x 3 core	m	190		
E12.9		(c) 120 mm <sup>2</sup> Kwena earthing conductor.	m	1000		
E12.9		(d) 70 mm <sup>2</sup> Kwena earthing conductor.	m	190		
	<b>3.3</b>	MV Cable Termination Supply and installation of MV cable termination XLPE Type A copper conductor cables				
E06.7.4		(a) 185 mm <sup>2</sup> x 3 core	No	2		
E06.7.4		(b) 70 mm <sup>2</sup> x 3 core	No	6		
E06.7.4		(c) 120 mm <sup>2</sup> Kwena earthing conductor.	No	2		
E06.7.4		(d) 70 mm <sup>2</sup> Kwena earthing conductor.	No	6		
	<b>3.4</b>	MV Cable Joint Supply and installation of MV cable joint XLPE Type A copper conductor cables				
E06.6.2		(a) 185 mm <sup>2</sup> x 3 core	No	3		
E06.6.2		(b) 70 mm <sup>2</sup> x 3 core	No			Rate only
	<b>3.5</b>	MV CABLE Installation Accessories				
		(a) Trenching including backfill and compaction - 800X1000mm	Prov. Sum	1	R 252 000,00	R252 000,00
		(b) Percentage mark-up on item above	%			
E06.4.14		(c) Cable protection tiles (762x500x50)	ea	1100		
E06.4.17		(d) Cable route Markers	ea	14		
		Carried forward				







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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
E20.8	3.6	Overhead Line - 11kV Fox Conductor Substation C to Van Wyks Pump station				
		Design, supply, handling, inspection, the overhead line and equipment earthing, including soil resistivity testing,				
E20.8		(a) Supply and deliver overhead line	m	650		
E20.8		(b) Supply and deliver earthing system	No	1		
E20.8		(c) Install, commission and test overhead line	No	1		
	3.7	Removal of existing equipment				
		(a) Remove existing RMU's & MV Switchgear and transport to designated store, 5km maximum.	Prov. Sum	1	R 25 000,00	R25 000,00
		(b) Percentage mark-up on item above	%			
	3.8	(c) Remove existing MV cable and transport to designated store, 5km maximum	Prov. Sum	1	R 25 000,00	R25 000,00
		(d) Percentage mark-up on item above	%			
		<b>Schedule No 2</b>				
		<b>Van Wyks Pump Station Electrics</b>				
E04.19	3.9	MOTOR CONTROL CENTRE				
		Manufacture, supply, off loading and installation of Van Wyks Pump Station MCC including PLC connections , marshalling tier and commissioning as detailed in the specifications and drawings	No	1		
	3.10	PLC PANEL				
		Manufacture, supply, off loading and Pump Station PLC panel fully equipped including PLC hardware, power supplies, network switch fibre patch panel, terminals, trunking wiring etc, including commissioning as detailed in the specifications and drawings.	No	1		
E16.10	3.11	UPS				
		Supply, off loading, installation and commissioning of 3kVA, 230V UPS, with battery back-up	No	1		
	3.12	LV CABLE				
		Supply and installation of PVC/SWA/PVC copper conductor cables strapped to cable ladders				
E05.9		(a) 185mm <sup>2</sup> x 3 core	m	120		
E05.9		(b) 120mm <sup>2</sup> x 3 core	m			
E05.9		(c) 95mm <sup>2</sup> x 3 core	m	260		
E05.9		(d) 16mm <sup>2</sup> x 4 core	m	80		
E05.9		(e) 4mm <sup>2</sup> x 4 core	m	30		
E05.9		(f) 2.5mm <sup>2</sup> x 7 core	m	1000		
E05.9		(g) 2.5mm <sup>2</sup> x 4 core	m	1520		
E05.9		(h) 2.5mm <sup>2</sup> x 3 core	m	50		
E05.9		(i) 1.5mm <sup>2</sup> x 3 core	m	180		
E05.9		(j) 6mm <sup>2</sup> x 3 core surfix	m	200		
E05.9		(k) 2.5mm <sup>2</sup> x 3 core surfix	m	400		
		Carried forward				



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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
E06.7	3.13	LV CABLE TERMINATION Supply and installation of PVC/SWA/PVC Exe corrosion guard cable glands (IP68) complete including conductor& earth termination, lugs, tapes, drilling etc				Rate only
E06.7		(a) 185mm <sup>2</sup> x 3 core	No	14		
E06.7		(b) 120mm <sup>2</sup> x 3 core	No			
E06.7		(c) 95mm <sup>2</sup> x 3 core	No	32		
E06.7		(d) 16mm <sup>2</sup> x 4 core	No	6		
E06.7		(e) 4mm <sup>2</sup> x 4 core	No	4		
E06.7		(f) 2.5mm <sup>2</sup> x 7 core	No	36		
E06.7		(g) 2.5mm <sup>2</sup> x 4 core	No	104		
E06.7		(h) 2.5mm <sup>2</sup> x 3 core	No	4		
E06.7		(i) 1.5mm <sup>2</sup> x 3 core	No	12		
E06.7		(j) 6mm <sup>2</sup> x 3 core surfix	No	14		
E06.7		(k) 2.5mm <sup>2</sup> x 3 core surfix	No	46		
E03.6	3.14	LOCAL ISOLATOR/ STOP/START STATIONS (a) Supply and installation of Local Isolator Station, including isolator and Stop/Start buttons.<80A	No	11		R8 000,00
E03.6		(b) Supply and installation of Local Isolator Station, including isolator and Stop/Start buttons.>80A	No	6		
E03.6		(c) Screen & compactor forward/ reverse local isolator station IP65, complete with emergency stop push	No	5		
E03.6		(d) 3CR12 support stands for the above items.	No	22		
E21.10	3.15	HIGH MAST LIGHTING (a) 30m High Mast Light, 6/8 luminaires to achieve Lux level of 50.	No	2		
		(b) Trenching including backfill and compaction - 500X500mm	Prov. Sum	1	R 8 000,00	
		(b) Percentage mark-up on item above	%			
	3.16	DIESEL GENERATOR Manufacture, supply, off loading, installation and commissioning of a 500kVA, 400V diesel generator including all ancillary equipment to effect a complete installation As detailed in the specifications				
E14.14		(a) Supply and delivery 500kVA 400V Generator Set, Incl. first fill of fuel, lubrication oil and filters	No	1		
E14.14		(b) Installation site testing and commissioning, including 12 month maintenance contract	No	1		
		(c) Generator plinth and fencing enclosure	Sum	1		
	3.17	630kVA TRANSFORMER Manufacture, supply, off loading, installation and commissioning of a 630kVA, 11kV/400V ONAN Dyn11 Transformer. Including all materials and ancillary equipment to effect a complete installation as detailed in the specifications				
		Carried forward				

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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
E15.17		(a) Supply, delivery and off loading of 630kVA transformer	No	1		
E15.17		(b) Installation site testing and commissioning	No	1		
	<b>3.18</b>	<b>JUNCTION BOXES</b> PVC/SWA/PVC Exe 4 way ezee / fit junction box (IP68) complete including terminals, lugs, tapes, drilling etc (glands measured elsewhere).	No	10		
	<b>3.19</b>	<b>EARTHING &amp; LIGHTNING PROTECTION</b> Design, supply, installation and testing of electrical earthing and lightning protection system for the Van Wyks pump station As detailed in the specifications				
E11.16		(a) Earth resistivity tests	No	1		
E11.16		(b) Design of earthing&lightning protection system	No	1		
E11.16		(c) Supply and Installation of earthing & lightning protection system	No	1		
E11.16		(d) Testing of earthing&lightning protection system	No	1		
		<b>SMALL POWER &amp; LIGHTING</b>				
	<b>3.20</b>	<b>PLAIN ENDED METALLIC GALVANISED BOSAL CONDUIT</b> Supply and installation of conduit and boxes as specified for lighting, power and auxiliary outlets, including couplings, bushes, locknuts, bending, drawboxes and fixing,etc in accordance with metallic conduit and accessories				
E09.19		(a) 20 mm on surface of brickwork or concrete galvanised	m	100		
E09.19		(b) 20 mm round boxes surface mounted galvanised	No	25		
E09.19		(c) Galvanised box 100 x 50 x 50mm deep galvanised boxes built into brick or concrete	No	35		
E09.19		(d) Galvanised box 100 x 100 x 50mm deep galvanised boxes built into brick or concrete	No	30		
	<b>3.21</b>	<b>LIGHT SWITCHES</b> Supply, installation and connection of 16 Amp light switches in flush 50 x 100 x 50mm boxes, including white coloured cover plates.				
E09.19		(a) Single lever	No	6		
E09.19		(b) Two lever	No	4		
E09.19		(c) Single lever, in IP65 Weather- Proof Enclosure	No	2		
E09.19		(d) Occpancy Sensor	No	2		
		Carried forward				

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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
E09.19	<b>3.22</b>	SWITCHED SOCKET OUTLET Supply, installation and connection of 16Amp switched socket outlets in 100 x 100 x 50mm boxes with white coloured cover plates				
		(a) 16A, 3-pin double SSO, with two type M wall mounted	No	6		
E21.10	<b>3.23</b>	LIGHTING Supply, Installation and Commissioning of Luminaires				
		(a) 4ft 50W Vapour Proof LED (With Battery backup)	No	6		
E21.10		(b) 4ft 50W Vapour Proof LED	No	6		
E21.10		(c) 220W LED Flood lights	No	6		
E21.10		(d) 50W Bulkheads (internal)	No	8		
E21.10		(e) 100W LED Flood lights	No	6		
E21.10		(f) 8m High Light Poles	No	14		
E07.5	<b>3.24</b>	WELDING PLUG Supply, Installation and Commissioning				
		(a) 400V, 5 wire welding plug socket	No	2		
E08.10	<b>3.25</b>	PVC CONDUCTORS Supply and drawn in copper PVC insulated conductors in conduit or trunking system in floor or in roof space for lights, plugs and power points, including connection to switches and equipment. For Live, Neutral and Earth.				
		(a) 1,5 mm <sup>2</sup> Live	m	300		
E08.10		(b) 1,5 mm <sup>2</sup> Neutral	m	300		
E08.10		(c) 2,5 mm <sup>2</sup> Live	m	300		
E08.10		(d) 2,5 mm <sup>2</sup> Neutral	m	300		
E08.10		(e) 2,5 mm <sup>2</sup> Earth	m	600		
	<b>3.26</b>	INSTRUMENTATION Includes the supply and installation of the field instrumentation as detailed in the specifications and data sheets, including all installation accessories and mounting brackets.				
		(a) Ultrasonic level transmitters (0.3-15m)	No	2		
		(b) Flow transmitter - clamp on ultra sonic	No	2		
		(c) Level switches - capacitive	No	2		
		(d) Ultrasonic differential level transmitters	No	5		
		Carried forward				

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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
		(e) Open channel flow transmitters	No	4		
		(f) Hydrostatic level transmitters (pressure)	No	2		
		(g) Flow switches	No	8		
	<b>3.27</b>	<b>INSTRUMENT JUNCTION BOXES</b> Manufacture, supply, off loading and installation of 3CR12 SS Instrument Junction Boxes as detailed in the specifications and drawings.				
		(a) Instrument junction boxes	No	15		
		(b) 3CR12 support stands for the above item.	No	15		
	<b>3.28</b>	<b>INSTRUMENTATION CABLES</b> Supply and installation of SW armoured electronic instrument cable strapped to cable ladder & laid in cable trench (cable ladder, trenching & cable terminations measured elsewhere)				
		(a) 2 pairx0.5mm <sup>2</sup> XLPE IAOS PVC SWA PVC Cu	m	1230		
		(b) 4 corex1.5mm <sup>2</sup> PVC OS PVC SWA PVC Cu	m	340		
		(c) 12 corex1.5mm <sup>2</sup> PVC OS PVC SWA PVC Cu	m	30		
		(d) 24 corex1.5mm <sup>2</sup> PVC OS PVC SWA PVC Cu	m	140		
		(e) 3 core x 2.5 mm <sup>2</sup> PVC PVC SWA PVC Cu	m	730		
		(f) 3 core x 6 mm <sup>2</sup> PVC PVC SWA PVC Cu	m	60		
	<b>3.29</b>	<b>INSTRUMENTATION CABLE TERMINATION</b> Supply and installation of PVC/SWA/PVC Exe corrosion guard cable glands (IP68) complete including conductor& earth termination, lugs, heatshrink, drilling etc				
		(a)2 pairx0.5mm <sup>2</sup> XLPE IAOS PVC SWA PVC Cu	No	44		
		(b) 4 corex1.5mm <sup>2</sup> PVC OS PVC SWA PVC Cu	No	12		
		(c) 12 corex1.5mm <sup>2</sup> PVC OS PVC SWA PVC Cu	No	2		
		(d) 24 corex1.5mm <sup>2</sup> PVC OS PVC SWA PVC Cu	No	14		
		(e) 3 core x 2.5 mm <sup>2</sup> PVC PVC SWA PVC Cu	No	24		
		(f) 3 core x 6 mm <sup>2</sup> PVC PVC SWA PVC Cu	No	6		
	<b>3.30</b>	<b>ELECTRICAL CABLE LADDER AND SUPPORTS</b> 3CR12 cable ladder powder coated including all accessories, mounted to concrete slabs / walls.				
E02.8		(a) 1000mm cable ladder	m	6		
E02.8		(b) 1000mm 90° bends	No	1		
		Carried forward				



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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
E02.8		(c) 1000mm internal bends	No			Rate only
E02.8		(d) 1000mm T-pieces	No			Rate only
E02.8		(e) 600mm cable ladder	m	60		
E02.8		(f) 600mm 90° bends	No	3		
E02.8		(g) 600mm internal bends	No	1		
E02.8		(h) 600mm T-pieces	No			Rate only
E02.8		(i) 300mm cable ladder	m	100		
E02.8		(j) 300mm 90° bends	No	5		
E02.8		(k) 300mm internal bends	No	2		
E02.8		(l) 300mm T-pieces	No	1		
E02.8		(m) P1000 channel (3Cr12)	m	50		
E02.8		(n) Channel steel 100x50x4.5 (3Cr12)	m	50		
E02.8		(o) Angle steel 30x30x4.5 (3Cr12)	m	50		
	<b>3.31</b>	<b>C&amp;I CABLE LADDER AND SUPPORTS</b> 3CR12 cable ladder powder coated including all accessories, mounted to concrete slabs / walls.				
		(a) 300mm cable ladder	m	50		
		(b) 300mm 90° bends	No	3		
		(c) 300mm internal bends	No	1		
		(d) 300mm T-pieces	No			Rate only
		(e) 150mm cable ladder	m	200		
		(f) 150mm 90° bends	No	8		
		(g) 150mm internal bends	No	3		
		(h) 150mm T-pieces	No	1		
		(i) P1000 channel (3Cr12)	m	30		
		(j) Channel steel 100x50x4.5 (3Cr12)	m	15		
		(k) Angle steel 30x30x4.5 (3Cr12)	m	50		
	<b>3.32</b>	<b>LV Cable Trenching</b>				
		(a) Trenching including backfill and compaction - 600X600mm	Prov. Sum	1	R 75 000,00	R75 000,00
		(b) Percentage mark-up on item above	%			
		(c) Cable protection tiles (762x500x50)	ea	390		
		(d) Cable route Markers	ea	4		
		Carried forward				



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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount	
		Brought forward					
		Schedule No 3 Network Reestablishment & Communication					
	3.33	FIBRE CABLING Supply and installation of 12 Core Single-Mode cables laid in ducts, trenches, horizontal racks or vertical ducts. Rates shall include the supply and fixing of supports for installation of cables					
		(a) 12 core single mode fibre cable - SWA	m	750			
		(b) 12 core single mode fibre cable - aerial type	m	704			
		(c) 12 core single mode fibre cable - termination (Splicing & OTDR testing)	No	4			
		(d) Fibre patch panel	No	4			
	3.34	SLEEVES Supply and installation of HDPE sleeves buried in ground as specified for C&I services.					
		(a) 110mm Flexible double walled black corrugated sleeves including 6mm pilot string as draw wire in each sleeve	m	800			
	3.35	MANHOLES Supply and installation of watertight manholes in ground as specified, including, seals ,bushes, sleeve entries and end caps. Inclusive of cover and frame					
		(a) Manholes	No	10			
	3.36	FIBRE CABLE TRENCHING					
		(a) Trenching including backfill and compaction - 600X600mm	Prov. Sum	1	R 200 000,00	R200 000,00	
		(b) Percentage mark-up on item above	%				
		(c) Cable protection tiles (762x500x50)	ea	1050			
		(d) Cable route Markers	ea	8			
	3.37	RADIO SYSTEM UPGRADE Supply installation and commissioning of enhancements to the site security radio system					
		(a) Site radio coverage survey	Sum	1			
	3.38	IP TELEPHONE SYSTEM Supply installation and commissioning of IP Telephone System, connecting into site fibre network					
		(a) Control room base station and software	Sum	1			
		(b) IP Telephone Sets	No	4			
		Carried forward					







<b>Payment refers to</b>	<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Rate</b>	<b>Amount</b>
		Brought forward				
	<b>3.39</b>	Schedule 4 - General Provisional Sums (a) Provisional sum for PLC Programming  (b) Provisional sum for SCADA programming  (c) Provisional sum for C&I Design  (d) Provisional sum for radio system upgrades  (e) Provisional sum for ECI site spares  (f) Provisional sum for V/Wyks P/S Perimeter  (g) Intruder detection system  Contractors markup on Provisional sums 3.9 a to g above	Prov. Sum  Prov. Sum Prov. Sum Prov. Sum Prov. Sum Prov. Sum %	1  1  1  1  1  1	R 600 000,00  R300 000,00  R650 000,00  R230 000,00  R250 000,00   R500 000,00	R600 000,00  R300 000,00  R650 000,00  R230 000,00  R250 000,00   R500 000,00
	<b>3.40</b>	AS BUILT DRAWINGS The marking - up of "As Built" drawings during the contract to ensure that accurate "As Built" drawings are submitted to the Engineer at the end of the contract.	sum	1		
	<b>3.41</b>	OPERATING & MAINTENANCE MANUALS Compilation of an O & M manuals	sum	1		
	<b>3.42</b>	QA/QC and FAT of equipment (MV Equipment, MCC's and VSD's)	sum	1		
		TOTAL SECTION 3 CARRIED TO SUMMARY				







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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
	<b>4</b>	<b>MECHANICAL</b>				
	<b>4.1</b>	<b>Replacement of Pumps</b>				
M18.28	4.1.1	Design, drawings, manufacture, supply, factory testing and storage of the Van Wyk pump station pumpsets (including motors) as specified.	No	6		
M18.28	4.1.2	Delivery to site, offloading and installation of the Van Wyk pump station pumpsets	No	6		
	<b>4.2</b>	<b>Pipework</b>				
		Design, drawings, manufacture, supply, testing testing and storage of pipework:				
M20.27	4.2.1	VP-S-01 DN450 Bell mouth	No	6		
M20.27	4.2.2	VP-S-02 DN450 90 deg short radius bend	No	6		
M20.27	4.2.3	VP-S-03 DN450 Puddle pipe	No	6		
M20.27	4.2.4	VP-S-05 DN450 Dismantling joint	No	6		
M20.27	4.2.5	VP-S-06 DN450-DN300 Eccentric reducer	No	6		
M20.27	4.2.6	VP-D-01 DN400-DN300 Eccentric reducer	No	6		
M20.27	4.2.7	VP-D-02 DN400 90 deg short radius bend	No	6		
M20.27	4.2.8	VP-D-05 DN400 Dismantling joint	No	6		
M20.27	4.2.9	VP-D-06 DN400 Straight pipe	No	1		
M20.27	4.2.10	VP-D-07 DN400 90 deg medium radius bend	No	2		
M20.27	4.2.11	VP-D-08 DN400-DN600 Eccentric reducer	No	2		
M20.27	4.2.12	VP-D-09 DN600 Straight pipe	No	1		
M20.27	4.2.13	VP-D-10 DN600 Straight pipe	No	2		
M20.27	4.2.14	VP-D-11 DN600 Swept tee	No	4		
M20.27	4.2.15	VP-D-12 DN600 Straight pipe	No	1		
M20.27	4.2.16	VP-D-13 DN400 Straight pipe	No	1		
M20.27	4.2.17	VP-D-14 DN600 Straight pipe	No	1		
M20.27	4.2.18	VP-D-15 DN600 90 deg short radius bend	No	4		
M20.27	4.2.19	VP-D-16 DN600 Straight pipe	No	2		
M20.27	4.2.20	VP-D-17 DN400 Straight pipe	No	1		
M20.27	4.2.21	VP-D-18 DN400 Straight pipe	No	1		
M20.27	4.2.22	VP-D-19 DN400 Straight pipe	No	2		
M20.27	4.2.23	Delivery to site, offloading and installation of the pipework (for items 4.2.1 to 4.2.22)	Sum	1		
	Carried forward					



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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
	4.2.24	Other pipework and supports as directed by Engineer	Prov Sum	1		R460 000,00
	4.2.25	Contractors markup on Provisional Sums 4.4.7	%			
	<b>4.3 Valves</b>	Design, drawings, manufacture, supply, factory testing and and storage of valves:				
M20.21	4.3.1	DN450 PN10 Knife gate valve	No	6		
M20.21	4.3.2	DN400 PN10 Knife gate valve	No	6		
M20.21	4.3.3	DN400 PN10 Swing check valve	No	6		
M20.21	4.3.4	DN600 PN10 Knife gate valve	No	3		
M20.21	4.3.5	DN700 PN10 Knife gate valve	No	2		
M20.21	4.3.6	DN350 PN10 Knife gate valve	No	6		
M20.21	4.3.7	DN200 PN06 Flanged Sewage Air release valve	No	4		
M20.21	4.3.8	DN200 PN10 Gate Valve	No	4		
		Delivery to site, offloading and installation of the valves				
M20.21	4.3.9	DN450 PN10 Knife gate valve	No	6		
M20.21	4.3.10	DN400 PN10 Knife gate valve	No	6		
M20.21	4.3.11	DN400 PN10 Swing check valve	No	6		
M20.21	4.3.12	DN600 PN10 Knife gate valve	No	3		
M20.21	4.3.13	DN700 PN10 Knife gate valve	No	2		
M20.21	4.3.14	DN350 PN10 Knife gate valve	No	6		
M20.21	4.3.15	DN200 PN10 Flanged Sewage Air release valve	No	4		
M20.21	4.3.16	DN200 PN10 Gate Valve	No	4		
	<b>4.4 Screening equipment</b>					
		<b>Primary screens / Trash racks</b>				
M01.15	4.4.1	Design, drawings, manufacture, supply, factory testing and and storage of the mechanical front raked primary screens.	No	3		
M01.15	4.4.2	Delivery to site, offloading and installation of mechanically front raked primary screens.	No	3		
M01.15	4.4.3	Design, drawings, manufacture, supply, factory testing and and storage of the primary screens belt conveyor.	No	1		
M01.15	4.4.4	Delivery to site, offloading and installation of the primary screens belt conveyor.	No	1		
		Carried forward				



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Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount	
	Brought forward						
		<b>Secondary screens</b>					
M01.15	4.4.5	Design, drawings, manufacture, supply, factory testing and and storage of the mechanical front raked secondary screens.	No	2			
M01.15	4.4.6	Delivery to site, offloading and installation of mechanically front raked secondary screens.	No	2			
M01.15	4.4.7	Design, drawings, manufacture, supply, factory testing and and storage of the secondary screens screw conveyor.	No	1			
M01.15	4.4.8	Delivery to site, offloading and installation of the secondary screen screw conveyor.	No	1			
M01.15	4.4.9	Design, drawings, manufacture, supply, factory testing and and storage of the screenings wash compactor.	No	2			
M01.15	4.4.10	Delivery to site, offloading and installation of the screenings wash compactor.	No	2			
M01.15	4.4.11	Design, drawings, manufacture, supply, factory testing and storage of the compacted screenings belt conveyor.	No	1			
M01.15	4.4.12	Delivery to site, offloading and installation of the storage of the compacted screenings belt conveyor.	No	1			
M01.15	4.4.13	Design, drawings, manufacture, supply, and storage of the waste skip trolleys and tracks	No	1			
M01.15	4.4.14	Delivery to site, offloading and installation of the waste skip trolleys and tracks	No	1			
		<b>4.5 Wash water booster pumps</b>					
		Design, drawings, manufacture, supply, off loading and storage of the new wash water booster pumps, valves, pipework, including hold down bolts					
M18.28	4.5.1	Wash water booster pump sets	No	2			
M20.21	4.5.2	DN65 - Isolation Valves	No	2			
M20.21	4.5.3	DN65 - Non-return valves	No	2			
M21.27	4.5.4	DN65 PN10 Stainless Steel flanged medium pressure pipe	m	40			
		Installation, site testing and commissioning of the new wash water booster pumps, valves, pipework, including hold down bolts					
M18.28	4.5.5	Wash water booster pump sets	Sum	1			
M21.27	4.5.6	Pipework and valves	Sum	1			
	Carried forward						

		<b>Contract JW14466 : Olifantsvlei WWTW</b> <b>Infrastructure Renewal Plan</b> <b>Volume 1 Tender and Contract</b> <b>Pricing Data</b>				
Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
	<b>4.6</b>	<b>Wash water supply pumps</b>  Design, drawings, manufacture, supply, off loading and storage of the new wash water supply pumps, valves, pipework, including hold down bolts				
M18.28	4.6.1	Wash water supply pump sets	No	2		
M20.21	4.6.2	DN100 - Isolation valves	No	2		
M20.21	4.6.3	DN100 - Non-return valves	No	2		
M21.27	4.6.4	DN100 PN10 flanged medium pressure pipe discharge manifold	m	5		
	4.6.5	4750l HDPE wash water storage tank	No	1		
	4.6.6	Skid mount for pumps	No	1		
		Installation, site testing and commissioning of the new wash water supply pumps, valves, pipework, including hold down bolts				
M18.28	4.6.7	Wash water supply pump sets, skid and tank	Sum	1		
M21.27	4.6.8	Pipework and valves	Sum	1		
	<b>4.7</b>	<b>Penstocks</b> Design, drawings, manufacture, supply, off loading and storage of penstocks				
M34.17	4.7.1	1m wide by 2m high channel mounted	No	5		
M34.17	4.7.2	650mm wide by 650mm height wall mounted	No	3		
		Installation and commissioning of penstocks				
M34.17	4.7.3	1m wide by 2m high channel mounted	No	5		
M34.17	4.7.4	650mm wide by 650mm height wall mounted	No	3		
	<b>4.8</b>	<b>Ancillaries</b>				
	4.8.1	Supply of screen spares as directed by Engineer	Prov Sum	1	R75 000,00	R75 000,00
	4.8.2	Repairs to HVAC as directed by Engineer	Prov Sum	1	R150 000,00	R150 000,00
	4.8.3	Repairs to lifting equipment and load testing	Prov Sum	1	R300 000,00	R300 000,00
	4.8.4	Fabricated steel pipe supports, staircase and stepovers	Prov Sum	1	R400 000,00	R400 000,00
	4.8.5	Contractors markup on Provisional Sums 4.8.1, 4.8.2, 4.8.3, 4.8.4	%			
	4.8.6	Design, drawings, manufacture, supply, off loading, installation and commissioning of drainage submersible pump installation	No	1		
	<b>TOTAL SECTION 4 CARRIED TO SUMMARY</b>					



<div>  <div> <b>Contract JW14466 : Olifantsvlei WWTW</b>  <b>Infrastructure Renewal Plan</b>  <b>Volume 1 Tender and Contract</b>  <b>Pricing Data</b> </div>  </div>						
Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
	<b>5</b>	<b><u>SECURITY CAMERA SYSTEM</u></b>				
	<b>5.1</b>	<b><u>Cameras and poles</u></b>				
		(a) Galvanised 100 x 100mm tubing 5m	No.	28		
		(b) Earthing	No.	28		
		(c) Camera - 4MP Bullet 100m	No.	28		
		(d) Pole Bracket & Pole Cap	No.	28		
		(e) Camera Junction Box	No.	28		
		(f) Camera Network Switch	No.	28		
		(g) Power Supply	No.	28		
		(h) SFP MM	No.	56		
		(i) Battery - 12V 24Ah	No.	28		
		(j) Fibre Splice Box	No.	28		
		(k) Ethernet Patch Cables	No.	28		
		(l) Fibre Patch Cables	No.	56		
	<b>5.2</b>	<b><u>Video Recorder,Fibre Optic,Cable&amp;Trenching</u></b>				
		(a) Digital video recorder 64 channel, 32G storage	No.	2		
		(b) DVR Switch	No.	1		
		(c) 4 Fibre Unit MM OM2	m	250		
		(d) 4 core single mode fibre cable - aerial type	m	350		
		(e) 1 Way 8/5 Microduct	m	250		
		(f) 2.5mm x 3c Cable	m	700		
		(g) 2.5mm x 3c Cable ends	No.	28		
		(h) 4mm x 3c Cable	m	700		
		(i) 4mm x 3c Cable ends	No.	28		
		(j) FO Terminations	No.	60		
		(k) Pigtails	No.	120		
		(l) Cable Cover Slabs (38mm thick paving blocks or precast wall slabs)	m	250		
		(m) 110mm Cable Sleeve	m	100		
		(n) Trenching 500x500mm (W x D) - hand excavation	m	250		
		(o) Sifted Sand Bedding	m <sup>3</sup>	30		
		(p) Cable warning tape	m	250		
		(q) Backfilling (insitu material)	m <sup>3</sup>	70		
	<b>5.3</b>	<b><u>Power Links</u></b>				
		(a) Circuit Breakers in existing DB	Sum	1		
		(b) 25mm Galvanised Conduit	m	20		
		(c) 25mm Galvanised Saddles	No.	20		
	<b>5.4</b>	<b><u>Testing &amp; Commissioning</u></b>	Sum	1		
	<b>5.5</b>	<b><u>Associated Preliminary &amp; General</u></b>	Sum	1		
	<b>TOTAL SECTION 5 CARRIED TO SUMMARY</b>					

<div>  <div> <b>Contract JW14466 : Olifantsvlei WWTW</b>  <b>Infrastructure Renewal Plan</b>  <b>Volume 1 Tender and Contract</b>  <b>Pricing Data</b> </div>  </div>						
Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
PSCP	6	<b>PIPES INVESTIGATION, DESIGN, REPORT (Existing DN700's &amp; DN1400 rising main pipes)</b>				
	6.1	See items described below	Prov. Sum	1	R2 400 000,00	R2 400 000,00
	6.2	Percentage mark-up on item above	%			
		<b>Preliminary and General:</b>				
	6.3	Allowance for compliance with all contractual requirements, including site establishment, transport, access to the site, equipment, security measures, insurances, all disbursements, overheads and any other costs not allowed for anywhere else.				
	6.4	GPR (Ground penetrating radar) Survey and mapping of the existing pipes and other related services				
		<b>Pipe condition inspection</b>				
	6.5	The point of lowest soil resistivity is to be used to select a cut-out that requires testing. Crown of the pipe to be cut to provide a suitable size for metallurgical testing purposes (6 off). Opening to be made good upon completion of the investigation stage.				
		<b>CP and AC investigations</b>				
	6.6	Inspection of the existing pipelines coatings				
	6.7	Excavation for inspection, as required.				
		<b>Soil Resistivity Survey:</b>				
	6.8	Provide all necessary equipment for carrying out the soil resistivity survey				
	6.9	Provide technical site staff (say 85 off), take measurements, record the soil resistivity, taking and recording GPS coordinates				
		<b>Stray Current Survey:</b>				
	6.10	Ascertain if there are any stray currents				
	6.11	Provide data loggers for stray current survey if required				
	6.12	Provide technical site staff, install and remove data loggers				
		<b>Current Drainage Survey:</b>				
	6.13	Provide technical site staff and carry out current drainage survey on the existing pipelines				
	6.14	a. Install temporary continuity measures to enable the current drainage survey (as required)				
	Carried forward					

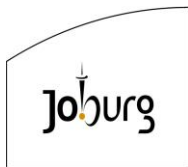
		<b>Contract JW14466 : Olifantsvlei WWTW</b> <b>Infrastructure Renewal Plan</b> <b>Volume 1 Tender and Contract</b> <b>Pricing Data</b>				
Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
	6.15	Tabulate and analyse all field data  <b>Design and Report:</b>  Prepare an options analysis of feasible repair/replacement methods for the existing pipelines, including related costing and firm recommendations, based on tests and visual assessment.				
	6.16	Existing DN700 pipes (x2)				
	6.17	Existing DN1400 pipe (x1)				
	6.18	Carry out the design of the CP system(s) and AC mitigation measures.				
	6.19	Prepare an estimate of the capital cost of the CP system(s) and AC mitigation measures that will be required				
	6.20	Prepare an estimate of the operating costs of the CP system(s) and AC mitigation measures.				
	6.21	Preparation and submission of the report including and having addressed all objectives outlined throughout the documents.				
	<b>TOTAL SECTION 6 CARRIED TO SUMMARY</b>					

		Contract JW14466 : Olifantsvlei WWTW Infrastructure Renewal Plan Volume 1 Tender and Contract Pricing Data				 Johannesburg Water	
Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount	
B33.04	7	<u>ROADS PAVING SLABS</u>					
	7.1	<u>MASS EARTHWORKS</u>					
	7.1.1	Cut to spoil, including all haul. Material obtained from:					
		(a) Soft excavation	m³	200			
		(b) Intermediate excavation	m³	100			
		(c)Hard excavation	m³	10			
		(d) Boulder excavation class A	m³				
		(e)Boulder excavation class B	m³	10			
	B33.07	7.1.2	Removal of unsuitable material, including all haul:				
		(a) In layer thicknesses of 200 mm and less:					
	i. Stable material	m³	200				
	ii. Unstable material	m³	100				
	(b) In layer thicknesses exceeding 200 mm:						
	i. Stable material	m³	10				
33.10	7.1.3	Roadbed preparation and the compaction of material:					
		(b) Compaction to 93% of modified AASHTO density	m³	300			
		(d) Compaction of sand roadbed to 100% of modified AASHTO density	m³	10			
B33.20	7.1.4	Fill constructed with material obtained from commercial sources or sources provided by the contractor, including all haul:					
		Gravel material in compacted layer thicknesses of 200 mm and less:					
		Compacted to 90% of modified AASHTO density	m³	100			
		Compacted to 93% of modified AASHTO density	m³	100			
B34,15	7.2	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>					
	7.2.1	Pavement layers constructed from gravel obtained from commercial sources or approved sources provided by the contractor, including all haul:					
		(a) Gravel selected layer compacted to:					
		i. 93% of modified AASHTO density for a compacted layer thickness of 150 mm, G7 quality	m³	300			
	Carried forward						



		<b>Contract JW14466 : Olifantsvlei WWTW</b> <b>Infrastructure Renewal Plan</b> <b>Volume 1 Tender and Contract</b> <b>Pricing Data</b>				
Payment refers to	Item No.	Description	Unit	Quantity	Rate	Amount
		Brought forward				
		ii. 95% of modified AASHTO density for a compacted layer thickness of 150 mm, G5 quality  (b) Gravel subbase (unstabilised gravel) compacted to:  i. 97% of modified AASHTO density for a compacted layer thickness of 150 mm, G5 quality	m <sup>3</sup>	100		
3500		<b>STABILISATION</b>				
		<b>Chemical stabilisation extra over unstabilised compacted layers:</b>				
B35.02		(a) Gravel subbase, 150 mm thick	m <sup>3</sup>	300		
		<b>Chemical stabilising agent:</b>				
35,04		(b) Portland blast-furnace cement (CEM 11/B-L32.5N)	t	26		
B35.14		<b>Provision and application of water for curing</b>	kilolitre	16		
		<b>Sampling of in situ material for mix design procedure</b>	Number	3		
	7.3	<b>CONCRETE PAVEMENTS</b>				
71.01		<b>Concrete trial pavement:</b>				
	7.3.1	(a) Mechanical construction, 150 mm thick	m <sup>2</sup>			Rate only
	7.3.2	(b) Manual construction, 150 mm thick	m <sup>2</sup>			Rate only
71.02	7.3.3	<b>Concrete pavement 150mm thick excluding texturing and curing (Class 30/19)</b>	m <sup>2</sup>	2 000		
71.03	7.3.4	<b>Extra over item 71.02 for concrete pavement requiring hand placing</b>	m <sup>2</sup>	300		
71.04	7.3.5	<b>Texturing and curing the concrete pavement:</b>				
		(a) Burlap-dragged and grooved texture	m <sup>2</sup>	2 000		
		(b) Curing	m <sup>2</sup>	2 000		
71.05	7.3.6	<b>Variation in the rate of application of the curing compound</b>	litre	20		
71.06		<b>Joints:</b>				
	7.3.7	(a) Expansion joints complete (excluding dowels - "See Detail B on the tender drawings "	m	200		
	7.3.8	(b) Sealed transverse contraction joints sawn in two separate operations (widths as shown on the drawings)	m	200		
		Carried forward				





Contract: JW14466  
OLIFANTSVLEI WASTEWATER TREATMENT WORKS IRP  
REFURBISHMENT OF VAN WYKSRUST PUMP STATION CONTRACT 1

Volume 1 Tender and Contract

Section C2 Pricing Data



SUMMARY OF BILL OF QUANTITIES	
Description	Amount
SECTION 1: PRELIMINARY AND GENERAL	R
SECTION 2: CIVILS	R
SECTION 3: ELECTRICAL, CONTROL AND INSTRUMENTATION	R
SECTION 4: MECHANICAL	R
SECTION 5: SECURITY CAMERA SYSTEM	R
SECTION 6: PIPES INVESTIGATION, DESIGN, REPORT	R
SECTION 7: ROADS PAVING SLABS	R
<b>SUB-TOTAL A</b>	R
Plus 15% for Escalation (Compulsory)	R
<b>SUB-TOTAL B</b>	R
Plus 15% for Contingencies (Compulsory)	R
<b>SUB-TOTAL C</b>	R
Plus 15% VAT	R
<b>TENDER SUM CARRIED TO FORM OF OFFER</b>	R

Employer:		Contractor:	
Witness:		Witness:	